

WÜRDEMANN (H. V.)

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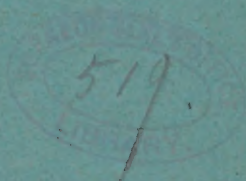
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LONG before the inception of the microbic theory of infectious diseases erysipelas was known to be contagious, as was the fact that wounds of the skin in certain localities and under some circumstances were liable to be followed by this affection. That eminent clinician, Trousseau,¹¹ declared years ago that infection was only possible through an external wound or abrasion. The results of modern bacteriologic investigation corroborate this excerpt from ancient literature, but examination of classic literature of recent date does not show that the fact is even yet firmly established. We still read of "idiopathic" and "traumatic" forms. Senn⁹ called attention some time ago to the fact that infection may arise through a mucous membrane. Yet writers on special pathology are strangely silent upon the subject of the disease originating within or infecting cavities

¹ Read before the Milwaukee Medical Society, February 13, 1894.



lined by mucous membrane. Most of the cases that I have seen within late years have arisen in this manner.

The specific cause is considered to be the streptococcus erysipela is, Fehleisen,³ (report published in 1883), or the *S. pyogenes*, Rosenbach⁸ 1884, Passet⁶ (1885), of which I have specimens under the microscope, taken from several sources. (*S. pyogenes*, kindly lent me by Dr. V. A. Moore, Department of Agriculture, Washington, D. C.; *S. erysipelatis*, prepared by Dr. H. B. Hitz, of Milwaukee.) Later writers (Eiselsberg,² Paret,⁷ Lungelsheim,⁵ Sternberg¹⁰), believe that these are simply varieties of the same species, that both may exist together and with other pus-microbes, and that there is no antagonism of species. Clinical evidence supports the view that under certain circumstances one predisposes to infection by the other (see Case V), and even that the original source of infection may be so modified by its environment as to give rise to distinct clinical pictures. Thus infection by erysipelas may, in one person, or in one portion of the body, produce typical erysipelas, and in another an acute suppurative process, while in a third the two conditions may coexist or follow one another. Such varied manifestations are commonly observed in phlegmonous erysipelas, and may be traced in such complications as suppurative otitis, etc. (See Cases I, II, III, V, IX.) It is possible that micro-organisms may be modified by their surroundings, and take upon themselves the characteristics of other forms, the poisonous products of their metabolism giving rise at different times to varied spe-

cific effects and different diseases. Our present knowledge of the evolution of disease renders this theory tenable. Bumm and Widal¹ show that when the streptococcus is constrained to lead a saprophytic existence in test-tube culture it loses its virulency, and Sternberg¹⁰ evolves from this statement the deduction that the rarity of infection of puerperal cases is largely due to attenuation of pathogenic power, as the streptococcus is often found in the healthy mucous membrane of the vagina, fauces, nose, etc.

Hajak⁴ (1886) and von Lungelsheim⁵ (1891) state that the morphologic processes of the *S. pyogenes* and *S. erysipelatis* are similar, although their morbid qualities are different. The former is pathogenic for both mice and rabbits, while the latter is lethal to rabbits only.⁵ The *S. erysipelatis* is said to occupy only the lymph-channels, its inoculation producing a superficial migrating dermatitis, while the *S. pyogenes* penetrates the tissues more deeply, travels beyond the lymphatic system, producing intense inflammation in the depth of the tissues. The latter is seen both in the lymphatics and around the bloodvessels, and often in their lumen.⁴ As my subject limits me to narrow grounds, I simply refer in passing to the fact that lowered conditions of bodily health and certain toxemias (alcoholism, septic infection, etc.) predispose to this disease as well as to other troubles, by diminishing the resisting-power of the tissues.¹⁰

The various inoculation-experiments show that the germ must be deposited under the superficial layers in order to gain entrance to the lymphatic

vessels^{9, 10}. No infection can result from contact of the virus with sound skin or mucous membrane.¹⁰ There must be a crevice in the armor into which the poison can creep. A wound of entrance always exists, but in those cases in which no solution of continuity has been observed it has been either so trivial or so small as to escape the attention of both patient and physician. The face and hands being more exposed to injury than other parts, explains the relative frequency of erysipelas in these localities. During the past five years my experience has been confined to cases incidental to other affections, or occurring after operations, the latter one of the most annoying of complications, and to which few surgeons are strangers. All of my cases were of the facial form, and upon due inquiry the starting-point in all instances was seen to be a local lesion, and in nearly all the original infection could be traced to some other case or to auto-inoculation.

CASE I.¹²—Contagion arising from abrasion in the anterior nares in a patient who was in the habit of picking the nose, and who has visited and nursed an erysipelatous patient in the neighborhood. Dr. Thomas Hay called me in consultation on account of acute suppuration in the left middle ear, occurring after extension of the erysipelas to the nasal membranes and naso-pharynx. Recovery took place after one relapse. Microscopic examination of the ear-discharge revealed several forms of pus-cocci, among them the *S. pyogenes*.

CASE II.¹²—Contagion arising in the naso-pharynx, occurring after removal of an adenoid growth, forming an abscess in the pharynx, the inflammation extending to the middle ears, through

the nasal and buccal cavities to the face and scalp, and down the neck to the shoulders. Suppurative otitis media occurred. The general treatment was directed by Dr. W. H. Washburn. It was a most severe case, attended by one relapse. Recovery followed.

CASE III.¹²—Beginning in an abrasion of the mucous membrane of the lower lip in a pipe-smoker, extending through the buccal cavity to the nasopharynx, through the Eustachian tubes to the middle ears, causing suppurative disease. Extension took place over one side of the face and scalp. No history of contagion was obtained. The general treatment was directed by Dr. W. F. Miller. Recovery followed.

CASE IV.—This man was receiving hypodermatics of strychnin for simple atrophy of the optic nerves. After about a dozen injections in the temples (needles presumably disinfected and reserved for him alone), a swelling was noticed which had existed several days when a diagnosis of hypodermatic abscess was made. For this condition I felt responsible until I afterward found out that the man was in the habit of frequenting a house in which there had recently been erysipelas. The temperature rose rapidly, and my consultant, Dr. F. E. Walbridge, concurred with me that the trouble was septic infection, but on the morrow, after the patient was safely ensconced in the hospital among other special surgical cases, I was dismayed to discover that the trouble was undoubted erysipelas. The roseola extended over one side of the face, but the man made the usual recovery.

CASE V.—This man had been lying in the next bed to the previous case before a diagnosis of the specific nature of the former had been made, and before he had been isolated. Seven days before I

had opened the mastoid for caries. Erysipelatic inflammation began under the bandages in the site of incision, and extended over the scalp. The case proved phlegmonous. The temperature was very high. Recovery ensued.

CASE VI.—For a number of days I abstained from operating, and kept away from personal attendance upon the two foregoing cases, until, believing that I was well disinfected, I extracted a cataract for an old woman in a room on the same floor, but nearly one-hundred feet away from the one in which the other cases were sequestered. On the fourth day thereafter we found unmistakable signs of erysipelas in an abrasion of the skin at the external angle of the eye *not* operated upon. Extension of the roseola to the cheek followed. It was a light case, with recovery.

CASE VII.—A scrofulous child, with erosion of the anterior nares and upper lip from purulent rhinitis appeared one day with a swollen face, and was sent to Dr. Louis Frank, who diagnosed erysipelas. Recovery followed.

CASE VIII.—The patient was an old man, whose nasal passages had been occluded for years by an enormous number of polypi, the operations for which were made daily for about a week. Considerable malodorous purulent discharge followed. After attempted disinfection the galvano-cautery was used, and two days later erysipelas appeared in the nares, extending over the face. Recovery ensued.

CASE IX.—This patient sat in the waiting-room of my office for a couple of hours, in the next chair to Case VIII before the diagnosis of erysipelas was made. For some obscure reason he had placed a large fly-blister on his forehead, which in consequence had become very sore. Two days later he appeared with swollen face and eyelids, and the

condition developed into erysipelas. The patient was sent to Dr. William Meyer for general treatment. A number of localized abscesses appeared about the face and forehead about a week after the roseola had disappeared. Recovery followed.

The clinical history of these cases, taken in order of occurrence from my case-book, substantiates the various pathologic investigations, showing that in all instances of erysipelas there must be a wound of entrance. Several of them illustrate the fact that the contagion of erysipelas does give rise to pus-formation, and that infection from other sources may cause erysipelas.

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